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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/020,275 | 12/18/2001 | Walter Takeo Yagyu | 08200.608 | 9120 |
| 7590 | 03/23/2004 | | EXAMINER | |
| Liniak, Berenato, Longacre & White Ste. 240 6550 Rock Spring Drive Bethesda, MD 20817 | | | FERGUSON, MICHAEL P | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3679 | |

DATE MAILED: 03/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|---------------------|---------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/020,275 | YAGYU, WALTER TAKEO |
| | Examiner | Art Unit |
| | Michael P. Ferguson | 3679 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 14 January 2004.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-3 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-3 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 18 December 2001 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 2 is objected to because of the following informalities:

Claim 2 (line 4) recites "which ball joints". It should recite --which the ball joints--.

For the purpose of examining the application, it is assumed that appropriate correction has been made.

Claim Rejections - 35 USC § 103

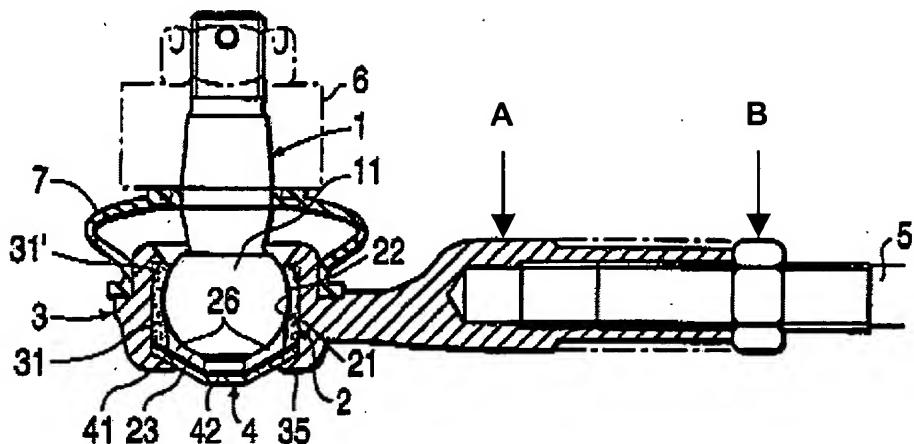
1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu et al. (US 5,368,408) in view of Kobayashi (US 5,092,703).

As to claim 1, Shimizu et al. discloses a tie rod with application of polymer composite with fiber reinforcement, having a stem 5 provided at its ends with ball joints 3 each composed of a metallic ball joint box A (Figure 6 reprinted below with annotations), a bearing 2, a protection cover 7 and a ball pin 1, the tie rod having the function of fixing pieces and components of a mechanical system between themselves, providing to them angular and rotational movement, supporting the strains concentrated therein, wherein the stem of the tie rod is combined with components of the metallic ball joint box (box A of ball joint 3 has a metallic cross-hatching; Figure 6).

FIG. 6



Shimizu et al. fails to disclose a tie rod wherein a stem of the tie rod is made of material comprising a polymer composite with fiber reinforcement.

Kobayashi teaches a tie rod with application of polymer composite with fiber reinforcement, having a stem 1 provided at its ends with ball joints 2 each composed of a ball joint box 5, a bearing 4, a protection cover 9 and a ball pin 3, the tie rod having the function of fixing pieces and components of a mechanical system between themselves, providing to them angular and rotational movement, supporting the strains concentrated therein, wherein the stem of the tie rod is made of material comprising a polymer composite with fiber reinforcement and combined with components of the ball joint box; the fiber reinforced polymer composite being corrosion resistant and providing improved strength and decreased weight at a suitable manufacturing cost (Figures 1-3, column 7 lines 28-44).

It would be advantageous for a tie rod as disclosed by Shimizu et al. to have a stem made of a polymer composite with fiber reinforcement to provide for a corrosion resistant, light weight tie rod, the fiber reinforcement providing improved strength.

As it would be advantageous for a tie rod as disclosed by Shimizu et al. to have a stem made of a polymer composite with fiber reinforcement to provide for a corrosion resistant, light weight tie rod, the fiber reinforcement providing improved strength, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify a tie rod as disclosed by Shimizu et al. to have a stem made of a polymer composite with fiber reinforcement as taught by Kobayashi to provide for a stronger, corrosion resistant, light weight tie rod.

As to claim 3, Shimizu et al. discloses a tie rod wherein ball joints **3** are attached to the ends of a stem **5** by means of a thread on the body of the stem and in the ball joints' boxes **A**, making the tie rod a tie rod with variable length, the adjustment of its length and the locking of the tie rod being provided by nuts **B** provided on the threads of the stem and that are tightened against the boxes of the ball joints (Figure 6).

3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu et al. in view of Kobayashi as applied to claim 1 above, and further in view of Pazdirek et al. (US 6,398,446).

As to claim 2, Shimizu et al. in view of Kobayashi fails to disclose a tie rod wherein ball joints are attached to the ends of a stem by chemical fixing, making the tie rod a tie rod with fixed length.

Pazdirek et al. teaches a tie rod wherein ball joints **16** are attached to the ends of a stem **22** by chemical fixing (adhesive), making the tie rod a tie rod with fixed length; the chemical fixing providing for a more secure, permanent connection between the ball joints and the stem (column 4 lines 41-46).

It would be advantageous for a tie rod as disclosed by Shimizu et al. in view of Kobayashi to have ball joints attached to the ends of a stem by chemical fixing to provide for a more secure, permanent connection between the ball joints and the stem.

As it would be advantageous for a tie rod as disclosed by Shimizu et al. in view of Kobayashi to have ball joints attached to the ends of a stem by chemical fixing to provide for a more secure, permanent connection between the ball joints and the stem, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify a tie rod as disclosed by Shimizu et al. in view of Kobayashi to have ball joints attached to the ends of a stem by chemical fixing, making the tie rod a tie rod with fixed length as taught by Padzirek et al. to provide for a more secure, permanent connection between the ball joints and the stem.

The applicant is reminded that process limitations are given no patentable weight in product claims. See MPEP § 2113. "The patentability of a product does not depend on its method of production. " In re Thorpe, 777 F.2d 695,698,USPQ 964,966 (Fed.Cir.1985).

Response to Arguments

4. Applicant's arguments with respect to claims 1-3 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Ferguson whose telephone number is (703)308-8591. The examiner can normally be reached on M-F (7:30-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H. Browne can be reached on (703)308-1159. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MPF



**Lynne H. Browne
Supervisory Patent Examiner
Group Art Unit 3679**